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ABSTRACT

Relationships among mothers' beliefs and values concerning their children's health, utilization of childhood preventive health services, and children's health status were examined. Mothers' health beliefs were measured with Parental Health Belief scales developed to explore three factors: (1) mothers' degree of perceived control or internality with respect to their children's health, (2) the extent to which they believed that "chance" affected their children's health, or (3) that "powerful others" affected their children's health. Participants were 88 Black and Caucasian low- and middle-income mothers of infants between 1 week and 20 months of age who were recruited at a public health department, a private pediatric practice, and a department of pediatrics in a private clinic. Results indicated that significant predictive relationships involving socioeconomic status exist among maternal health beliefs and values, utilization of preventive health services, and health status. It is suggested that the results provide a critical empirical foundation upon which to construct a model of childhood preventive health services utilization. (RH)

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"The Effect of Maternal Health Beliefs on Utilization of Childhood Preventive Health Services and Child Health"

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In recent years, there has been increasing agreement that our public health strategies must be modified to emphasize physical and mental prevention. In the field of maternal and child health, there is an emerging consensus that we have the scientific knowledge to prevent some of the most devastating problems of childhood. In particular, prematurity, low birthweight, growth and nutritional problems, injuries, poisonings, certain infectious illnesses and learning and psychosocial dysfunctions are among the major problems of infancy and childhood that are, at least to some extent, preventable. Investigations of these problems indicate that parental behavior plays an important role in the development and prevention of these problems, and in children's physical and mental health in general.

Currently, one of the most critical problems facing members of all disciplines concerned with children's health is the underutilization of preventive health services. Recently released national reports document the declining health status of American children, particularly those who are poor, and attribute much of the cause to lack of appropriate and timely preventive health care. For

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example, after birth, the most effective preventive measure for the common infections of childhood and their consequences is immunization. Yet, less than half of all poor and minority children under the age of four years are fully vaccinated against preventable childhood infections. Although the reasons for underutilization of childhood preventive health services such as immunizations and well-child exams in the U.S. are complex, the hypothesis underlying this project is that utilization of childhood preventive health services is related to specific maternal beliefs concerning the control mothers perceive with respect to their children's physical health, which in turn affects child health outcomes.

The Health Belief Model developed by Hochbaum, Leventhal Rosenstock and their associates has been the most widely utilized framework for investigating and predicting health behavior. The model utilizes sociopsychological variables to explain preventive health behavior, including general health motivation. Rotter's concept of locus of control has frequently been employed to operationalize health motivation in the Health Belief Model. Thus, locus of control is used as a variable for predicting health behavior. Consonant with Rotter's emphasis on the utility of specific locus of control scales for specific categories of behavior, health locus of control scales such as Wallston, Wallston & DeVellis's Multidimensional Health Locus of Control (MHLC) scales have been developed and

successfully utilized to predict various aspects of both preventive and remediative health behavior for both children and adults. Although these scales are predictive of adult and child health behavior they have not been very useful for predicting parents' health behavior on behalf of their children. However, these findings may be due to the fact that locus of control scales used in these studies measured the mothers' perceptions of control over their own health, not control over the health of their children, and are therefore inadequate to predict preventive health service utilization patterns by mothers on behalf of their children. To overcome this problem, the principal measure in this study was a assessment of mothers' health beliefs, which was specifically aimed at the evaluation of parents' health beliefs concerning their children's health. The Parental Health Belief (PHB) scales explore three factors: (1) mothers' degree of perceived control or internality with respect to their children's health, (2) the extent to which mothers believe that "chance" or (3) "powerful others" affects their children's health. These three factors represent independent dimensions, although the "chance" and "powerful others" factors are both manifestations of externality and are more highly correlated with each other than either is correlated with internality. These scales were modified from Parcel & Meyer's Children's Health Locus of Control scales (1978) which measure children's perceptions of their control of

their own health. The modifications entailed rewording the items to reference parents. For example, one item was changed from "It's my mother's job to keep me from getting sick" to "It's my job as a mother to keep my child from getting sick." A mother who was high on the internality factor would tend to agree with the statement "I can do many things to fight illness in my child." A mother who was high on the "chance" factor would most likely agree with the statement, "Children who never get sick are just plain lucky." And, in contrast, a mother who was high on the "powerful others" factor would tend to agree with the statement, "Only a doctor or nurse keeps children from getting sick." Psychometrics calculated for the modified scale demonstrated high test-retest reliability (r =.96, averaged across all twenty PHB questions, ranging from .83 to 1.00). The focus of this study was to determine the relationships among mothers' health beliefs, as measured by the Parent Health Belief (PHB) scales and utilization of childhood preventive health services. The model underlying this study predicts that mothers who are high in internality with respect to the control they perceive concerning their children's health will be high utilizers of preventive health services for their infants.

Eighty-eight (88) black and Caucasian mothers of infants-- 48 low-income families and 40 middle-income families participated in this study. Mothers were from 14-39 years of age (mean=25) and infants were from 1 week

through 20 months old (mean=5.9). There were equal numbers of male and female infants. All infants were born at term and without serious illness, handicaps or deformities.

Mothers were recruited from three sites which were chosen to maximize the variability of maternal health beliefs and the degrees of utilization of childhood preventive health services. Families with low incomes tend to obtain medical services for their children at one of two sites in the area: a public health department (Site A) and a private pediatric practice (Site B). Site A, the public health department was an important research site because it is a catchment for families who range from frequent and consistent users of childhood preventive health services to families who, in spite of active, individualized encouragement by public health nurses and a no-charge system for service fail to utilize childhood preventive health services. Site B, a private pediatric practice, is the main provider of pediatric well-baby and acute care for lower socioeconomic families in the community. Utilizing this site for subject recruitment was important because it provided access to a large number of lower socioeconomic families and many families who obtain childhood preventive health services from this pediatrician do not pay for these services themselves, but are granted these services through public aid. Thus, this research site provided lower socioeconomic families who are not charged for services obtained as a control for middle-socioeconomic families

recruited through Site C, a department of pediatrics in a private clinic, many of whom belong to an HMO and are not charged on a fee per visit basis.

Information on utilization of childhood preventive health services was obtained through physician/public health immunization and well-baby exam records. Child health status was assessed with physician/public health records of illness, injury, and growth information.

Results

Stepwise regression analyses were utilized to assess the independent effects of socioeconomic status and the three maternal health belief factors (chance, internality and powerful others) on the preventive health utilization measures. These regression analyses produced two major groups of findings. First, socioeconomic status was a significant predictor of whether an infant was up-to-date on well-baby checkups, with the middle socioeconomic group of infants being more up-to-date on these checkups than the infants from the lower-socioeconomic families. Second, independent of social class, high levels of maternal internal health beliefs (i.e., mothers who believed strongly that they could modify their infants' health) was significantly predictive of high levels of three different preventive health utilization outcome measures: (1)the number of well-baby checkups corrected for infant age, (2) whether the infants were up-to-date on their immunizations, and (3) whether the infants had received their shots on

time. Neither the "chance" or "powerful others" factors were predictive of maternal utilization of preventive health services for children. In other words, mothers belief in their control of their infants' health was predictive of obtaining more frequent and more timely preventive health services for their babies.

Discussion

The results from this project have both theoretical and applied implications. First, these data provide much needed information concerning the role of maternal health beliefs in the utilization of childhood preventive health services and child physical health, providing a substantive empirical foundation upon which to erect a model of childhood preventive health services utilization. From an applied viewpoint, the study provides systematic information concerning targeted ways in which maternal utilization of childhood preventive health services might be increased. The explication of the outcome of varying levels of parental health beliefs allows the development of specific preventive health programs, founded on basic research identifying these empirical relationships. The use of prevention techniques which are aimed at incorporating the levels of health belief internality of parents will potentially lead to increased utilization of childhood preventive health services, and may have implications for child health levels. If an internal locus of control is a necessary factor for parents to assume

increased responsibility for childhood preventive health behavior, it is essential that health and parent education programs provide activities that reinforce an internal health locus of control. Changing the emphasis of current programs from a focus on content (such as caregiving skill training) to providing parents with success opportunities in making and implementing decisions about their children's health would seem to merit consideration. A variety of programs--regardless of their content--may be effective as long as they instill a belief in parents' sense of control over their children's health. It is argued that internality may be the common ingredient across successful, but apparently disparate programs.

The identification of the relationships among maternal health beliefs and utilization of childhood preventive health services is an important first step in addressing parental psychological variables associated with child health. However, there are many questions remaining to be answered with respect to parental and family influences on child health. For example, how do other more general perceived parent competences interact with parental health beliefs? What is the relationship between parent health beliefs and another aspect of parent beliefs: parent knowledge and expectations concerning child development milestones and timetables? In addition, longitudinal studies are necessary to determine the stability of maternal health beliefs and their usefulness as predictors

of utilization of preventive health services and child health over time.

One important child health policy concern is the determination of what interventions are most substantially linked to improved health status for children. The findings from this study, which demonstrate that high levels of internality in maternal health beliefs are predictive of high levels of maternal utilization of childhood preventive health services such as immunizations and well-baby care suggest that policymakers might increase their effectiveness in improving child health levels by modification of parental health beliefs, thereby increasing utilization of available services.